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National Airspace System Enterprise Architecture Framework (NASEA)

Air Traffic Organization



National Airspace System (NAS) Operational Node Connectivity Diagram (OV-2) Supplemental Integrated Dictionary (AV-2) AS-IS Version 1.0

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1.0	9/13/2011	AJP-15, NAS Enterprise Architecture Team	Original document

Element Type	Name	Description
Operational Node	Aeronautical Navigation Products	The Aeronautical Navigation Products (AeroNav Products) supports pilots, air traffic controllers, and aviation planners with a myriad of products and services to promote safe aeronautical navigation. Ref: http://www.faa.gov/air_traffic/flight_info/aeronav/
Operational Node	Air Route Traffic Control Center (ARTCC)	An Air Route Traffic Control Center is a facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft. Ref: Pilot/Controller Glossary http://www.faa.gov/air_traffic/publications/atpubs/PCG/pcg.pdf
Operational Node	Air Traffic Control System Command Center (ATCSCC)	An Air Traffic Control System Command Center is an Air Traffic Tactical Operations facility responsible for monitoring and managing the flow of air traffic throughout the NAS, producing a safe, orderly, and expeditious flow of traffic while minimizing delays. The following functions are located at the ATCSCC: a. Central Altitude Reservation Function (CARF). Responsible for coordinating, planning, and approving special user requirements under the Altitude Reservation (ALTRV) concept. b. Airport Reservation Office (ARO). Responsible for approving IFR flights at designated high density traffic airports. c. U.S. Notice to Airmen (NOTAM) Office. Responsible for collecting, maintaining, and distributing NOTAMs for the U.S. civilian and military, as well as international aviation communities. d. Weather Unit. Monitor all aspects of weather for the U.S. that might affect aviation including cloud cover, visibility, winds, precipitation, thunderstorms, icing, turbulence, and more. Provide forecasts based on observations and on discussions with meteorologists from various National Weather Service offices, FAA facilities, airlines, and private weather services. Ref: Pilot/Controller Glossary

Element Type	Name	Description
Operational Node	Aircraft	Aircraft are device(s) that are used or intended to be used for flight in the air, and when used in air traffic terminology, may include the flight crew. Ref: FAA Doc AD-A226 707
Operational Node	Air Traffic Control Tower (ATCT)	An Air Traffic Control Tower is a terminal facility that uses air/ground communications, visual signaling, and other devices to provide ATC services to aircraft operating in the vicinity of an airport or on the movement area. The tower authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit the Class D airspace area regardless of flight plan or weather conditions (IFR or VFR). A tower may also provide approach control services (radar or non-radar). Ref: Pilot/Controller Glossary http://www.faa.gov/air_traffic/publications/atpubs/PCG/pcg.pdf
Operational Node	Automated Flight Service Station (AFSS)	An Automated Flight Service Station is an air traffic facility which provides preflight and in-flight meteorological and aeronautical briefings, in-flight communications including En Route Flight Advisory Service ("Flight Watch"), development, translation, processing and coordination of aeronautical, meteorological and aviation information (such as NOTAMS) search and rescue and support of air shows, fly-ins and other aviation events. Ref: Pilot/Controller Glossary
Operational Node	FAA Headquarters	The FAA Headquarters operation delivers safe, secure and efficient air traffic management services and aeronautical information to Air Traffic Organization (ATO) customers operating in the National Airspace System NAS, as well as international airspace assigned to U.S. control.
Operational Node	Flight Inspection Central Operations	Flight Inspection Central Operations is the operations group headquartered in Oklahoma City, Oklahoma, at the Mike Monroney Aeronautical Center. There are six flight inspection field offices, located throughout the continental United States, and one in Anchorage, Alaska. Ref: http://www.faa.gov/air_traffic/flight_info/avn/flightinspection/
Operational Node	Governmental Proponent	A Governmental Proponent is any other government agency including any agency that interacts with the National Airspace System (NAS), such as the Department of Defense (DOD), the Department of Homeland Security (DHS) and the National Weather Service (NWS).

Element Type	Name	Description
Operational Node	National Network Control Center (NNCC)	The National Network Control Center is the central point of control for network restoration activities including day-to-day outage requests, status notifications, and logging activities. The NNCC shall provide for the reporting of telecommunications facilities and network status to the National Operation Control Center (NOCC). The NNCC's Data Telecommunications Control Operator (DTCO) shall coordinate network operations and direct restoration activities of all personnel and/or organizations involved with the day-to-day operations of the telecommunications networks.
Operational Node	National Operations Control Center (NOCC)	The National Operations Control Center (NOCC) provides national coordination of facility restoration activities and to provide status information on NAS equipment. The NOCC is responsible for collecting, tracking and reporting data from field organizations for NAS status, facility and service interruptions, special events and disasters. The NOCC monitors critical situations as they evolve and notifies, mobilizes or directs key organizations while coordinating these events with Air Traffic and Airway Facilities. The NOCC is a conduit to the regional Maintenance Control Centers (MCC) for restoration of key NAS facilities and services, and communicates electronically with FAA technicians responsible for maintaining the NAS. Ref: http://www.fly.faa.gov/Products/Information/NOCC/nocc.html
Operational Node	Non-Governmental Proponent	Non-Governmental Proponent is any agency or organization outside the government that interacts with the National Airspace system (NAS), such as commercial air carriers, general aviation, local or state agencies.
Operational Node	Operations Control Center (OCC)	The Operations Control Center has three service areas, Eastern OCC, Central OCC and Western OCC where specialists have intimate knowledge of radar, communications, navigational aids, telecommunications, automation, and power services for their particular types of facilities and/or services within their domain. Each OCC is capable of assuming the responsibility of another OCC in the event of an OCC failure or inability to perform its services. Ref: Team Processes in Airway Facilities Operations Control Centers – DOT/FAA/CT-TN00/14, July 2000
Operational Node	Public Domain	Public Domain is a person, community, political organization or public agency that interacts with the National Airspace System (NAS).

Element Type	Name	Description
Operational Node	Remote Maintenance Equipment Site	Remote Maintenance Equipment Site is where Remote Maintenance Monitoring (RMM) is performed. RMM capability is the ability to remotely monitor and control the NAS subsystem through the Federal Aviation Administration's (FAA) remote maintenance monitoring control system. RMM functionality will allow the user to perform the following functions from a remote location: monitor system status and alarms, periodic maintenance, certification, analyze system performance, fault isolation and restoration and manage system configuration. Ref: FAA Order, JO 6000.53C, Remote Maintenance Monitoring Interface Development and Implementation
Operational Node	Service Area	The role of the Air Traffic Organization Service Center (or Service Area) is to provide shared services which promote standardization of processes, efficiency and effectiveness which achieve results for the En Route, Technical Operations, Terminal, and System Operations service units. The Service Center is also an ATO contact point for other FAA organizations and is comprised of five groups, Administrative Services, Business Services, Planning and Requirements, Operations Support, and Quality Control. Ref: FAA Home Website - http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/sc/
Operational Node	Terminal Radar Approach Control (TRACON)	A Terminal Radar Approach Control is a terminal air traffic control facility that uses radar and non-radar capabilities to provide approach control services to aircraft arriving, departing, or transiting airspace controlled by the facility. Ref: Pilot/Controller Glossary http://www.faa.gov/air_traffic/publications/atpubs/PCG/pcg.pdf
Information Exchange	Airspace Coordination Message	An Airspace Coordination Message is a request for a Temporary Flight Restriction (TFR) which is a type of Notices to Airmen (NOTAM). A TFR defines an area restricted to air travel due to a hazardous condition, a special event, or a general warning for the entire FAA airspace. The text of the actual TFR contains the fine points of the restriction.
Information Exchange	Air Traffic Control (ATC) Message	An Air Traffic Control Message is any message from Air Traffic Control personnel to pilots or other ATC personnel.

Element Type	Name	Description
Information Exchange	Control Coordination Message	A Control Coordination Message is information distributed for or as a result of the direct operation of controlling air traffic between controllers.
Information Exchange	Flow Coordination Message	A Flow Coordination Message is used to develop and coordinate flow strategies (i.e., aggregate trajectory solutions) when potential problems are identified, such as large-demand capacity imbalances, congestion, high degrees of complexity, and blocked or constrained airspace (e.g., for special use, weather).
Information Exchange	Maintenance Coordination Message	A Maintenance Coordination Message is a schedule agreed to between the customer and the maintenance facility that describes the equipment that requires maintenance, the maintenance to be performed, estimated time to accomplish the maintenance, a time frame for the maintenance to occur.
Input/Output	Advisory	An Advisory is advice and information provided to assist pilots in the safe conduct of flight and aircraft movement.
Input/Output	Aeronautical Study	Aeronautical Studies are conducted by Air Navigation Service Providers in high volume areas to improve traffic flows, decrease delays and increase airport capacity and may result in new airspace designs and/or procedures.
Input/Output	Air File	An Air File is the request for IFR flight plan information, dissemination and activation by an airborne aircraft.
Input/Output	Aircraft Synchronization	An Aircraft Synchronization is information used for the regulation and coordination of the spacing, timing, metering, and sequencing of air traffic throughout the departure, cruise, and arrival phases of flight.
Input/Output	Airspace Proposal	An Airspace Proposal is a proposal for design, or re-design, of NAS Airspace as a result of an identified need.
Input/Output	Airspace Study Result	An Airspace Study Result is the finished product when all metrics have been generated and analyzed for all of the proposed alternatives and all environmental and safety assessments have been performed and the substance of the analysis, including conclusions and/or recommendations are documented.
Input/Output	Area Configuration	An Area Configuration is how a specified area of NAS airspace is designed to include NAVAIDS, airways, SIDS, STARS, instrument approach procedures, surveillance, and communications.

Element Type	Name	Description
Input/Output	Area Configuration Approval	An Area Configuration Approval is the acceptance of a change to the configuration of an area of the NAS to include changes to NAVAIDS, airways, SIDS, STARs, instrument approach procedures, surveillance, and communications.
Input/Output	Clearance	A Clearance is an authorization by air traffic control for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace or ground movement areas.
Input/Output	Clearance Relay	A Clearance Relay is any clearance issued from an ATC facility or third-party provider to another ATC facility or pilot.
Input/Output	Clearance Request	A Clearance Request is a pilot's request for IFR departure clearance or if airborne, a request for change in altitude or routing or speed.
Input/Output	Control Instruction	Control Instructions are direct or relayed transmissions to separate aircraft and airport vehicles to prevent collisions, to organize and expedite the flow of traffic, and to provide information and other support for pilots.
Input/Output	Customer Coordination Message	A Customer Coordination Message is a schedule agreed to between the customer and the maintenance facility that describes the equipment that requires maintenance, the maintenance to be performed, estimated time to accomplish the maintenance, a time frame for the maintenance to occur.
Input/Output	Customer Input	A Customer Input is the request for a change to the current or future design of NAS airspace submitted by a NAS user.
Input/Output	Declared Emergency	A Declared Emergency is a distress or urgency condition and can be declared by the pilot, air traffic personnel or officials responsible for the operation of the aircraft.
Input/Output	Departure Message	A Departure Message (DM) is a computer message either automatically generated by beacon code recognition or manually entered into the computer by the ANSP that activates a filed flight plan.
Input/Output	Document Maintenance Work	Document Maintenance Work is the documentation of all scheduled and unscheduled maintenance actions performed on NAS equipment or systems.

Element Type	Name	Description
Input/Output	Environmental Impact Statement	An Environmental Impact Statement (EIS) is a clear, concise and detailed document that provides the agency decision makers and the public with a full and fair discussion of significant environmental impacts of the proposed action and reasonable alternatives which may avoid or minimize adverse impacts and implements the requirement in National Environmental Policy Act (NEPA) for a detailed written statement.
Input/Output	Flight Identification	Flight Identification also known as the call sign is the identifier given to ATC to identify a specific aircraft. The identifier can be the registration markings or the telephony designator of the aircraft operating agency, followed by the flight identification number.
Input/Output	Flight Information Service Message	A Flight Information Service Message is information pertinent to the safe and efficient conduct of flight, including weather, Notams and possible hazards to flight. This service is usually provided by Flight Service Stations or relayed to pilots through third party providers.
Input/Output	Flight Inspection	A Flight Inspection is the result of an in-flight investigation and evaluation of a navigational aid or procedure to determine whether it meets established tolerances.
Input/Output	Flight Plan	A Flight Plan is specified information relating to the intended flight of an aircraft, including type aircraft, on-board equipment, requested altitude, speed, requested flight path, fuel, souls on board and estimated time enroute, that is filed orally or in writing with an FSS or an ATC facility.
Input/Output	Flight Plan Submission	A Flight Plan Submission is input of a flight plan into the NAS either by voice, electronic means or in writing.
Input/Output	Flight Progress Description	A Flight Progress Description includes all information for the flight either by electronic means (URET/EDST) or flight progress strips
Input/Output	Government Proponent Request	A Government Proponent Request is a request received from a government NAS user for information or a change to airspace design.
Input/Output	Implementation Plan	An Implementation Plan is the documentation of changes to airspace, procedures, airways, standard instrument departure procedures, standard terminal arrival routes, and sectorization that should be coordinated with the organization that maintains the airspace baseline, and with service area offices. The implementation plan should include maps, charts, displays, and airspace usage documents.

Element Type	Name	Description
Input/Output	In-Flight Briefing	An In-flight Briefing is information received by the pilot while in flight pertaining to weather or NOTAM information for the current route of flight or for a change in destination.
Input/Output	Inventory Report	An Inventory Report is a periodic detailed itemized list, report, or record of all goods and materials in stock.
Input/Output	NAS Infrastructure Maintenance Plan	A NAS Infrastructure Maintenance Plan is a required daily maintenance plan on the FAA Intranet, listing scheduled shutdowns impacting operations at least 12 hours in advance of each shutdown.
Input/Output	NAS Maintenance Adjustment	NAS Maintenance Adjustments are performed by a systems specialist who make system, subsystem, or equipment adjustments, check critical parameters, and tests the requisite specialized knowledge. The specialist is able to adequately investigate, analyze, test, and correct system, subsystem, equipment, or service deficiencies to restore and ensure continuous reliable operation.
Input/Output	NAS Maintenance Schedule	A NAS Maintenance Schedule is the scheduled maintenance and shutdowns of NAS equipment.
Input/Output	NAS Maintenance Work	NAS Maintenance Work is the work performed by airway transportation systems specialists, aviation safety inspectors, manufacturing inspectors, flight inspection pilots, mission specialists, procedure development specialists, aircraft maintenance employees, and safety support staff to maintain a safe and efficient NAS structure.
Input/Output	NAS Performance Metric	A NAS Performance Metric is the measurement of safe and effective use of available airport or airspace capacity. Four categories of system performance indicators to measure capacity and efficiency have been identified: flexibility, predictability, access, and delay.
Input/Output	NAS Status	A NAS Status is the operational condition of the National Airspace System to include airspace, facilities, airport configuration, weather, Navaid availability, equipment outages, and NOTAMS.
Input/Output	Next Departure	Next Departure is the aircraft first in line behind a departing aircraft.
Input/Output	Non-Government Proponent Request	A Non-Government Proponent Request is a request received from a non-government NAS user for information or a change to airspace design.

Element Type	Name	Description
Input/Output	Operator Message	An Operator Message is a message from the pilot to the FSS requesting flight plan clearance or cancellation of flight plan after the flight has been completed.
Input/Output	Personnel Resource Report	A Personnel Resource Report lists the scheduled personnel available at a facility and their qualifications to perform required maintenance.
Input/Output	Position Information	Position Information is a snapshot in time of the geospatial location of an aircraft in the air or on the ground or a vehicle determined visually, by onboard avionics or by cooperative or non-cooperative surveillance.
Input/Output	Position Report	The Position Report is a report over a known location as transmitted by an aircraft to ATC or from controller to controller.
Input/Output	Pre-Departure Clearance	A Pre-Departure Clearance contains the cleared destination, cleared runway, type of departure and route, squawk code, departure time, next frequency, current ATIS identifier and is sent using the Tower Data Link System (TDLS) that automates the Clearance Delivery operations in the ATCT for participating users. The PDC function displays IFR clearances from the ARTCC to the ATCT. The airline/service provider will then deliver the clearance via the Aircraft Communications Addressing and Reporting System (ACARS) or a similar data link system or, for non-data link equipped aircraft, via a printer located at the departure gate.
Input/Output	Preliminary Airspace Decision	A Preliminary Airspace Decision is a representation of the system so that preliminary output can be obtained for review by the entire design team. It verifies that the input data is complete, accurate and correctly applied, the changes in the model inputs result in appropriate changes in the output and the operational experts agree that the baseline model captures the essential features.
Input/Output	Preliminary Airspace Proposal	A Preliminary Airspace Proposal is the activity that collects data to support the study for a requested airspace design or re-design.
Input/Output	Proponent Request Transfer	A Proponent Request is a request received from a NAS user for information or a change to airspace design.
Input/Output	Public Comments	Public Comments are changes to the NAS that meet certain criteria requiring that the changes be posted in the national Registry with a comment period open to the public. Formal community involvement or public meetings/hearings may also be required for the proposed project. The comments that are received are reviewed and are either accepted or declined.

Element Type	Name	Description
Input/Output	Public Remarks Reassignment	A Public Remarks Reassignment is when an ANSP location receives comments from the public about new or existing airspace that is having a negative impact. The comments are reviewed and a response is made. If the location receiving the comments is not the correct one the comments will be forwarded to the correct location.
Input/Output	Request for Charting	A Request for Charting is received because a route or instrument procedure (i.e., approach, SID, STAR) is modified or a new one is implemented. The request for charting is sent to the Aeronautical Navigation Products - AJV-3 office who are responsible for constructing the new procedure according to established criteria.
Input/Output	Request for Flight Inspection	A Request for Flight Inspections is directed to the offices of Aviation System Standards (AVN) and Flight Inspection Central Operations (FICO). Periodic Flight Inspections are initiated by AVN and are requested via the OCC/ SOC when technical operations ground support is required. Special Flight Inspections are inspection requests that originate from the organization requiring the service. Procedural Flight Inspections are inspections to verify a new or amended existing procedure prior to publication.
Input/Output	Revised NAS Status	A Revised NAS Status is a change that has occurred to the operational condition of the National Airspace System to include airspace, facilities, airport configuration, weather, Navaid availability, equipment outages, and NOTAMS.
Input/Output	Safety Alert	Safety Alerts are issued by ATC to aircraft under their control if ATC is aware the aircraft is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain, obstructions, or other aircraft.
Input/Output	Schedule NAS Infrastructure Maintenance	Schedule NAS Infrastructure Maintenance is the scheduling of equipment and the required technicians necessary to perform maintenance on ATC systems.
Input/Output	Taxi Instructions	Taxi Instructions are the control instructions provided by the ANSP for the movement of an aircraft under its own power on the controlled movement area of an airport.

Element Type	Name	Description
Input/Output	Traffic Flow Adjustment	A Traffic Flow Adjustment involves the implementation of Traffic Flow Management Initiatives and examining the execution of a Traffic Flow Plan. The ANSP then assesses the plan's performance in satisfying the traffic demands on the NAS and develops recommendations for adjustment as necessary. After implementation of a traffic management initiative, the effects of the change are monitored in order to evaluate whether the initial problem has resolved, what benefits can be measured from the change and whether the change has created any unexpected follow-on issues.
Input/Output	Traffic Flow Plan	A Traffic Flow Plan is the daily strategic plan of operations for aircraft flow and defining the general parameters for the Traffic Flow Management Initiatives planned for the day of operations.
Input/Output	Traffic Information Service Message	Traffic Information Services Messages are messages from Flight Service Stations (FSS) that include information on other potentially conflicting traffic, possibly derived from radar, but stopping short of providing positive separation from that traffic.
Input/Output	Transfer Control Message	A Transfer Control Message is the electronic or voice notification whereby the responsibility for the separation of an aircraft is transferred from one controller to another.
Input/Output	Transfer Coordination Message	A Transfer Coordination Message is the transfer of coordination information from controller to controller within a facility or to the receiving facility as an aircraft progresses along its route performed via automation or manually.
Input/Output	Weather Status	Weather Status is current and forecast weather conditions including winds, temperature, ceiling, visibility, icing, turbulence, convective activity, surface conditions and any significant meteorological conditions and their impact on NAS operations.